

Applicants: Robinson et al.
Serial No.: 10/045,340
Page 2 of 15

IN THE CLAIMS

1 - 39 (Canceled)

40. (currently amended) An electrical connector for establishing permanent electrical communication between internal components of an implantable medical device (IMD) wherein said internal components couple to deployable medical electrical leads, comprising:

a molded housing of insulating material adapted to sealingly couple to a surface of an ~~implantable medical device~~ IMD, said housing comprising a plurality of contact pad-receiving interlocking structures;

a metallic stamped insert having each of a plurality of wire contact pads sealingly secured to one of the plurality of contact pad-receiving interlocking structures of the molded housing and; wherein said insert includes a manually removable tab attached to the plurality of wire contact pads of the stamped insert so the removable tab and wire contact pads are in common electrical communication, and wherein the wire contact pads are sized to receive an end portion of an electrical wire; and

means formed in each of said molded housing plurality of contact pads adapted for guiding permanently attaching an the end portion of the electrical wire to each wire contact pad.

41. (currently amended) A connector of claim 40, wherein the insulating material comprises moldable plastic and wherein the means formed in said molded housing permanently attaching an electrical wire further comprises at least one aperture.

42. (Previously presented) A connector of claim 40, wherein the insulating material comprises one of the group: a glass material, a resin-based material, a thermoplastic material.

Applicants: Robinson et al.
Serial No.: 10/045,340
Page 3 of 15

43. (currently amended) A connector of claim 40, wherein the ~~electrical-metallic insert connector comprises a set of thin, spaced apart substantially flat connector members.~~

44. (Previously presented) The connector of claim 40, wherein the manually removable tab comprises a scribed line disposed on a surface of the manually removable tab.

45. (currently amended) An apparatus for permanently connecting electrically-conducting components of an implantable medical device (IMD) so that deployable medical electrical leads can be coupled thereto, comprising:

at least one electrical connector comprising a tab section and a plurality of spaced-apart electrically conducting wire bonding pads in common electrical communication; and

a non-conductive housing at least partially enclosing the plurality of spaced-apart electrically conducting wire bonding pads of the at least one electrical connector, wherein said non-conductive housing comprises a plurality of structures adapted to mechanically interlock and individually retain each of the spaced-apart electrically conducting wire bonding pads, and wherein the at least one electrical connector is adapted to assist manual separation of the tab section from the plurality of spaced-apart electrically bonding pads, and wherein the wire bonding pads comprise a substantially flat wire-receiving portion.

46. (Previously presented) An apparatus according to claim 45, wherein the apparatus is adapted to provide electrical connection between a plurality of electrical components internal and external to the implantable medical device.

47. (currently amended) An apparatus according to claim 45, wherein the at least one electrical connector comprises a series of electrical connectors temporarily

Applicants: Robinson et al.
Serial No.: 10/045,340
Page 4 of 15

attached by the tab section and thereby temporarily commonly electrically coupled together.

48. (currently amended) An apparatus according to claim 47, wherein the series of electrical connectors are adapted to be manually segmented into discrete components after the molding of the housing around the connectors.

49. (currently amended) An apparatus according to claim 45, wherein the apparatus is a component of a header assembly for an IMD~~implantable medical device~~.

50. (currently amended) An apparatus according to claim 45, wherein the housing further comprises one of an wire-admitting aperture and a wire-guiding groove feature adjacent one of the wire bonding pads an electrically insulative material.

51. (Previously presented) An apparatus according to claim 45, wherein the housing comprises moldable plastic.

52. (Previously presented) An apparatus according to claim 45, wherein the housing comprises one of the group: a glass material, a resin-based material, a thermoplastic material.

53. (Canceled)

54. (currently amended) An apparatus according to claim 45, wherein the at least one electrical connector conducts electrical signals between a plurality of contact surfaces on each electrical connector, wherein the housing provides isolation between the at least one electrical connector and the spaced-apart electrically conducting wire bonding pads.

Applicants: Robinson et al.
Serial No.: 10/045,340
Page 5 of 15

55. (Previously presented) An apparatus according to claim 54, wherein a plurality of electrical wires which couple to a similar plurality of electrical components are welded to the plurality of electrical contacts.

56. (Previously presented) An apparatus according to claim 45, wherein the at least one electrical connector comprise an electrically conductive metallic material.

57. (Previously presented) An apparatus according to claim 45, wherein the at least one electrical connector comprise a base metal.

58. (Previously presented) An apparatus according to claim 57, wherein the metal comprises one of the group: a gold material, a nickel material, and alloys thereof.

59. (Previously presented) An apparatus according to claim 45, wherein the implantable medical device comprises at least one of a pacemaker, a cardioverter, a defibrillator, a neural stimulator, and a drug administering device.

60. (currently amended) A feedthrough arrangement for establishing permanent electrical communication between internal circuits of an implantable medical device (IMD) and at least one removable remote electrical component, comprising:

a plurality of spaced-apart electrical contacts for conducting electrical signals communicated through a plurality of elongated conductors in common electrical communication with a removable tab portion;

a molded housing comprising an electrical insulating material, the molded housing enclosing a portion of the plurality of electrical contacts, the housing disposed in sealing engagement with said portion of the plurality of electrical contacts, the housing further comprising a plurality of apertures, wherein the plurality of apertures are adapted for permanently receiving wire-bonded electrical wires for permanent connection with the plurality of electrical contacts; and

Applicants: Robinson et al.
Serial No.: 10/045,340
Page 6 of 15

wherein the feedthrough arrangement is a component of an IMDimplantable medical device.

61. (Previously presented) A feedthrough arrangement according to claim 60, wherein the housing comprises one of: a moldable plastic material, a thermoplastic material, a resin-based material.

62. (Previously presented) A feedthrough arrangement according to claim 60, wherein the housing comprises one of: a glass material, a ceramic material, a dielectric material.

63. (currently amended) A feedthrough arrangement according to claim 60, further comprising:

the housing having an opening and the housing defining a first-environment
~~within side of~~ the housing; and
wherein the plurality of electrical contacts extend from the first side of ~~first~~ environment ~~within~~ the housing to a second side environment ~~outside~~ of the housing.

64. (currently amended) A feedthrough arrangement according to claim 603, wherein the plurality of apertures extend from the a first side of-environment ~~within~~ the housing to a second side environment ~~outside~~ of the housing.

65. (currently amended) A feedthrough arrangement according to claim 63, wherein the plurality of electrical contacts conduct electrical signals between the first ~~environment~~side and the second ~~environment~~side and the housing provides isolation between the first and second ~~environment~~sides.

Applicants: Robinson et al.
Serial No.: 10/045,340
Page 7 of 15

66. (previously presented) A feedthrough arrangement according to claim 65, wherein the plurality of electrical contacts are welded to the electrical wires that are disposed through the plurality of apertures.

67. (previously presented) A feedthrough arrangement according to claim 60, wherein the plurality of electrical contacts comprise a metal.

68. (currently amended) A feedthrough arrangement according to claim 60, wherein the plurality of electrical contacts comprise a geometrically shaped member.

69. (Previously presented) A feedthrough arrangement according to claim 68, wherein the plurality of electrical contacts comprise a base metal and wherein said base metal is chosen from the group comprising: a gold material, a nickel material, and alloys of the gold material and the nickel material.

70. (currently amended) A feedthrough arrangement according to claim 60, wherein the housing and the plurality of electrical contacts are disposed within a header module of an IMD-implantable medical device.

71. (currently amended) A feedthrough arrangement according to claim 70, wherein the IMD-implantable medical device comprises at least one of: a pacemaker, a cardioverter, a defibrillator, a neural stimulator, and a drug administering device.

72. (currently amended) An electrical connector for permanently coupling a plurality of elongated electrical wires to circuitry disposed within an implantable medical device (IMD), comprising:

an insert member comprising a plurality of electrical contact pads and a connecting tab severably connected to the plurality of electrical contact pads; and

Applicants: Robinson et al.
Serial No.: 10/045,340
Page 8 of 15

an electrically insulative housing, the housing comprising discrete interlocking structures in contact with and retaining each of the plurality of electrical contact pads;
wherein each of the contact pads of the electrical connector is a component in an IMD-implantable medical device.

73. (previously presented) An electrical connector according to claim 72, wherein the connecting tab is readily manually detachable from the plurality of electrical contacts.

74. (currently amended) An electrical connector according to claim 72, wherein the plurality of electrical contact pads provide electrical communication between components operatively coupled to disposed within the IMD-implantable medical device.

75. (previously presented) An electrical connector according to claim 72, wherein the electrically insulative housing comprises a moldable plastic material.

76. (Previously presented) An electrical connector according to claim 72, wherein the electrically insulative housing comprises one of a glass material and a ceramic material.

77. (Previously presented) An electrical connector according to claim 72, wherein the electrically insulative housing comprises a plurality of apertures capable of communicating electrical wires through the plurality of apertures and to the plurality of electrical contacts.

78.-79. (Canceled)